

# THE CALIFORNIA VETERINARIAN



JANUARY-FEBRUARY  
1951



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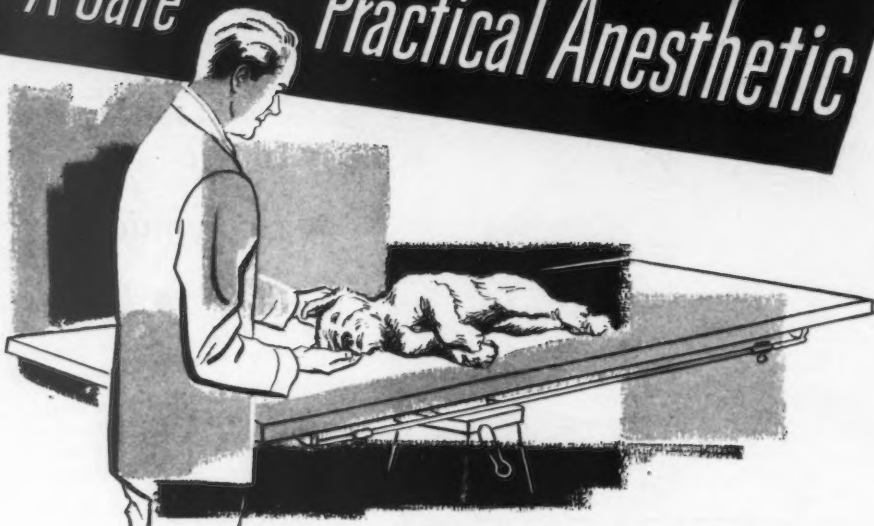
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# THE CALIFORNIA VETERINARIAN

JANUARY-FEBRUARY, 1951

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## Number 3

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## The Immediate Role of the Veterinarian in Civil Defense

By BEN H. DEAN, DVM\*

In California, from the state to the local level, there is an enormous amount of activities concerning a civil defense program. The broad civil defense program includes plans for protection of a state against any of the potential methods of attack the enemies may use. The plans which are being made at the present time are primarily directed toward the possibility of an attack by an atomic bomb. One of the many different phases of the defense plan that is now being organized, is that of medical care for casualties. Therefore, the top priority in the planning of a role of the veterinary profession in a civil defense plan at this time should be given to the utilization of veterinarians in the event of an atomic attack.

The veterinarian has the training and skill which are necessary in giving treatment to casualties immediately following a disaster. Working as part of a first-aid team, under the direction of a physician, the veterinarian can treat burns, traumas, immobilize fractures, give blood transfusions and other such necessary immediate first-aid treatment. The practicing veterinarian is highly capable of such an assignment, as his training and experience, as explained above, are second only to the medical profession.

Representatives of the U. S. Bureau of Animal Industry and the State Division of Animal Industry, California Veterinary Association and representatives from some of the local associations met in Davis during the meeting of the California State Veterinary Medical Association. The group developed a program, outlining the responsibilities of the veterinary profession in the state civil defense program. It was the consensus of the group that the veterinary profession should occupy a position in statewide civil defense, which is broadly:

1. Statewide organization and mobilization of all veterinarians, veterinary hospitals and other facilities that the veterinary profession has, which may be utilized in civil defense.

2. An outline of the responsibilities and role of the veterinary profession in the event of a major disaster.

In order to have the necessary information if the director of civil defense decides to utilize the veterinarians on first-aid teams, a survey has been initiated to obtain the following information:

1. Name, address and type of experience of every veterinarian in California.

2. Location of every veterinary hospital with information as to size, equipment and other available facilities.

This information will be necessary for the planning of a veterinary program, regardless of what role the veterinary profession will play in civil defense.

To expedite the completion of the above survey and to consider plans that will be necessary in other phases of the broad civil defense program in terms of the veterinary profession, a skeleton statewide team of veterinarians have been appointed. For purposes of civil defense, the state has been divided into ten regions. A veterinarian and an alternate have been appointed to represent the veterinary profession in each of the ten regions. These men will have the responsibility of conducting the survey. In order to obtain the information and do other work which may be necessary, they will appoint veterinary representatives from each county. The county representative will work directly with the regional representative and the regional representative will work with the state representative. There may be occasions when it may be desirable to have sub-county representatives.

The use of selected veterinary hospitals as first-aid stations has been considered in other states, and these hospitals have been designated in some. Such possibilities should be considered by civil defense planners in this state, especially in the large metropolitan areas. Some of these veterinary hospitals have the space, operating rooms, sterilizers, X-rays, bandages, instruments, etc., that can be utilized in first-aid. The information gathered from the survey will be given to the state director and also to the local or regional director of civil defense. It is for them to decide whether or not veterinarians are to be assigned as members of first-aid teams and whether veterinary hospitals are to be designated as first-aid stations. When such information with the statement as to how veterinarians may be used to contribute valuable service in case of an atomic attack, is given to those who have responsibility for planning medical service, the veterinary profession will then have discharged its responsibility. The completion of the questionnaires which have been distributed to all veterinarians, is the immediate responsibility of veterinarians in California.

In the event of an atomic attack, the veterinary profession has responsibilities other than that of assistance to the medical profession. Treatment and care of wounded animals, including livestock, pets, zoo animals and others should be planned. Evaluation as to

\*Representative of the California Veterinary Medical Association on the California State Emergency Medical Advisory Committee.

the amount of radiation absorbed by animals, meat and meat products, milk and other foods is part of the over-all plan that concerns veterinarians.

After the disaster phase of the program has been planned and organized, then the civil defense leaders will attempt to develop plans and organizations for defense against bacteriological warfare. When these plans are ready to be developed, the veterinarian has a major role. The veterinary plan in regard to bacteriological warfare will broadly consist of:

1. Intensifying the reporting from veterinarians and others of all diseases in animals.
2. Organizing and training of investigating or epidemiological teams.
3. Establishing laboratories with highly skilled technicians and equipment that is necessary for the identification of agents that may be used in bacteriological warfare.

#### **Outline of State Meeting on Civil Defense at Davis**

Those attending the meeting were: A. K. Carr, Ben Dean, C. E. Wicktor, E. M. Austin, L. D. Meyers, J. E. Stuart, George McCollister, E. F. Chastain, A. G. Boyd, M. D. Moys, W. A. McDonald, Eugene E. Jones, C. E. Taylor, R. K. Allen, L. E. Smith, Floyd H. White, Charles S. Travers, B. B. White.

In attempting to provide a plan and outline, consideration has to be given to at least five aspects of the total civil defense program that concerns the veterinary profession. These aspects are: (1) bacteriological warfare; (2) Milk; (3) Meat; (4) Aid to allied professions at time of disaster, and (5) Care of animals.

The circumstances at the present time indicate that the most pressing problem is to survey and organize the veterinarians into the medical plan for the treatment of casualties in the event of an atomic attack. It has been stated that if an atomic bomb is dropped on any of our large metropolitan areas, the number of human casualties will probably run well over 100,000. In reviewing the civil defense plan and in estimating the casualties, it is at once apparent that the medical profession will need every assistance available from all professionally trained groups. As these casualties, for the most part, will be burns, traumas and fractures, it is essential that all veterinarians be available to administer first-aid treatment to these human casualties immediately in the event of disaster. The scientific knowledge required, the medicines, and the techniques used in treating burns and traumas in animals are the same whether they occur in lower animals or the higher animal—man.

In order that the veterinary profession may be organized to render the utmost service, a

survey will be immediately initiated.

The state has been divided into ten regions for civil defense purpose. In order to expedite the carrying out of the above survey and to do other work that will be necessary in other phases of the veterinary activity, it is proposed that veterinarians be appointed in each of these ten districts, and that these district representatives will be appointed to the Regional Civil Defense Coordinators' Advisory Committee.

It is hoped that in each of the ten districts veterinarians can be found who have the time, interest, and desire to devote to the program. The regional representative will designate other veterinarians to assist him at the county level.

When the survey is completed and upon acceptance of this proposed plan by the local defense council, it is contemplated that the Director of the Medical Service and the veterinary representatives will:

- (1) Select the veterinary hospitals that are considered to be qualified for use as first-aid stations (size, location, equipment, etc.);
- (2) Assign veterinarians to first-aid stations, either veterinary hospitals or others (based on experience).

Questionnaires have been distributed to district representatives from the State Department of Agriculture. These men in your area will call upon you within the next few days. It is requested that you appoint a representative from your local association, who will take the partial responsibility of having the questionnaires completed. It is planned that the representatives you designate will work with the representative who has been appointed from the State personnel. It will be the responsibility of this pair to obtain the answers to the questionnaire for the area for which they represent. Also, they may wish to select representatives at the county level. In some cases it may be more practical to even select representatives from various sections of the large counties.

It is imperative that these steps be taken immediately in order to fit the veterinary program into the overall statewide defense plan. Therefore, we are requesting that you take action as soon as possible and the questionnaires be completed as soon as possible.

We will appreciate it if you will give us your cooperation in this planned program.

#### **Veterinarians Allied with Doctors**

Veterinarians use essentially the same techniques to treat sick and injured animals as those used by medical doctors on human patients, according to Dr. O. H. Siegmund, of the school of veterinary science, University of California College of Agriculture.



# PUBLIC HEALTH DEPARTMENT

## Forty-seventh Annual Report of the State Board of Examiners in Veterinary Medicine

Department of Professional and Vocational Standards

1950

### Letter of Transmittal

To His Excellency, Earl Warren,  
Governor of the State of California,  
Sacramento, California.

Your Excellency:

Conforming with the provisions of Section 4810 of the Business and Professions Code of the State of California, Gaylord K. Cooke, Secretary of the Board of Examiners in Veterinary Medicine for the State of California, has the honor of presenting for your consideration the forty-seventh annual report, showing the activities of this branch of the State Government for the year 1950.

Respectfully submitted,

GAYLORD K. COOKE, Secretary.

Berkeley, California,  
December 31st, 1950.

### Officers and Members of the Board

President, Dr. Ernest C. Baxter, 816 So. San Pedro St., Los Angeles.

Vice-President, Dr. Eugene C. Jones, 50 59th Place, Long Beach.

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Dr. R. A. Ball, 1318 Henry Ave., Modesto;  
Dr. E. F. Sheffield, 3895 Pacific Highway, San Diego;  
Chas. B. Jaekle, Investigator, c/o Health Department, Berkeley.

### Meetings

During the year 1950 the Board of Examiners in Veterinary Medicine held the following meetings:

January 12, 13, 14 ..... San Francisco  
June 28, 29, 30 ..... San Francisco

### Examination Statistics

Date	No. Participating	No. Passed	No. Failed
January 12, 13, 14 ..	20	14	6
June 28, 29, 30 ....	70	64	6

### San Francisco—January 12, 13, 14

Adams, Joseph Herbert	Luoto, Lauri
Altaker, Robert Roben	Mashek, Victor Raymond
Andrews, Francis Whipple	McFadden, Marley Clayton
Coffland, Robert Theodore	Poston, Walker Seward
Crandall, Nelson David	Rosenberg, Donald Walter
Dubrawski, Tadeusz	Rowan, Craig
Mieczyslaw	Rowe, William George
Eglit, David	Shaftner, Donald Kurtz
Howells, William Veatch	Stone, Perry
Kittleson, Loren L.	Whitson, Clyde Francis
Lebeaux, Maxim Ian	

### San Francisco—June 28, 29, 30

Bailey, Donald Elgin	Lien, William Warren
Bailey, Frederick Lynn	Low, David Lawson
Baker, Lyle Adelbert	Mackey, Horace Wathen
Barger, Lester Jennings	Mashek, Victor R.
Belknap, Thomas Edward	Mayeda, Bryan
Blue, James Guthrie	McDermid, Miles John
Bone, Jesse Franklin	Miller, Jay Harry
Brake, Benjamin Ralph	Mitchell, Richard Arthur
Bramer, Clarence Newell	Murray, Francis A.
Bryant, Walter Edmund	Newton, Dean Irwin
Carreau, Robert Albert	Nielsen, James Edward
Child, Stanton Melvin	Phillipson, M. H.
Condon, Walter Franklin	Ramsdale, Philip Nicholas
Crenshaw, George Lee	Rice, Burt Harrison
Deaver, James Martin	Rohrer, Arthur Abner
Dorothy, Oliver Dean	Ropa, Howard Martin
Engel, Eldon Elwood	Rowe, William Geo.
Erwin, James Dawson	Sax, Norman
Fuller, Robert Henry	Schmidt, Milton, Jr.
Garner, Floris Melbourne	Schoonhoven, Paul
Giambroni, Andrew Frank	Stahmann, Benjamin Robert
Gouchenour, Cecil Fred	Stanton, Harlan Mayne, Jr.
Gustafson, Wm. Henry	Stirling, Charles Oscar
Haberman, J. J.	Thomsen, Wm. Frank, Jr.
Harris, Robert James	Thomas, George Nolen
Hayes, Kenneth Commack	Thue, George Magnus
Hewitt, Henry Clark	Vinson, John Charley
Hilton, Harold Arthur	Von Tour, Jennette Geer
Hoadley, Richard Eugene	Von Tour, Robert
Hogg, Alex	Wedam, Fred Joseph
Holtzheimer, Don Herbert	Whitson, Clyde Francis
Keatts, Berger	Wilson, Gregg House
Klauber, Harry	Wise, Paul Thomas
Law, Raymond Mark	Zakrzewski, Szymon
LeDonne, Edward G.	Zander, Donald Victor

\* \* \*

In September of the current year our investigator, James M. Sims, Jr., resigned his position to enter the United States Navy. Subsequently Charles B. Jaekle was appointed as investigator to serve for the Board.

\* \* \*

### Law Enforcement

During 1950 there were thirteen convictions of unlicensed persons obtained by the Board. The license of one veterinarian was ordered suspended temporarily in disciplinary action as recommended by the Department of Administrative Procedure. This action is at present under litigation in the courts of the state. Sixty-one new complaints were received, sixty-five complaints investigated and nine warnings were issued.

\* \* \*

All registrations and finances are handled through the Department of Professional & Vocational Standards in Sacramento.

Number of licensed veterinarians as of  
Dec. 31, 1950 ..... 1116  
Number of licensed veterinarians in the  
Armed Forces ..... 23  
Number of veterinarians whose licenses  
lapsed as of December 31, 1950 ..... 29

## Livestock Diseases Reported

DR. A. K. CARR, *Administrator*

*Division of Animal Industry, State Department of Agriculture, Sacramento, California*

Tabulation of diseases reported to the State Division of Animal Industry during the period September to December, inclusive, also a summary of the reports for the previous eight months and totals for the year 1950.

	Sept.-Dec. Incl.-1950			Previous 8 Months			Totals 1950
	North	Central	South	North	Central	South	
Actinomycoosis				2			2
Anaplasmosis	3	2	3	20	10	7	45
Anthrax, Cattle	3	2		1	4		10
Hogs	1			3			4
Sheep	1						1
Bovine Bac. Hemoglobinuria	2	1		1			4
Bovine Trichomoniasis	1			1			2
Braxy, Sheep				1			1
Caseous lymphadenitis	2						2
Coccidioid granuloma		3		11			14
Coccidiosis, Sheep	1			1		1	3
Cysticercus, bovis	7	24	33	46	15	11	136
Equine encephalomyelitis	24	11	8	49	59	52	203
Foot rot, Sheep	7	1		3			11
Hog cholera	13	13	6	16	25	14	87
Infectious keratitis, Cattle		1		1	5		7
Infectious pneumonia, Calves			1				1
Johne's disease, Cattle	2	2		1	2		7
Grats				1			1
Sheep	1			2			3
Malignant edema, Cattle		1		1			2
Sheep	1						1
Leptospirosis, Cattle	1			3			4
Mycotic stomatitis, Cattle	1	3		1			5
Paratyphoid infection, Hogs	1	1	1	1	1		5
Choriopptic scab, Cattle				1			1
Swine erysipelas		7		1	3	2	13
Texas fever ticks			1				1
Vesicular exanthema, Swine	4	28	7	9	65	70	183

As stated in the previous report the increase in reports of cysticercus bovis resulted from a new procedure that state meat inspectors also report all of these cases on a special form giving detailed information including owner and address. The origin of cases held for cooking or refrigeration and those condemned are investigated to require proper sanitary practices at places where cattle are fed. It is hoped this procedure will reduce instances of this condition in cattle.

## Australian Veterinarians Obtain Aid for Sheep Industry

Australian veterinarians are now confronted with a problem that United States veterinarians have never been required to tackle. This season many of the great sheep raising areas of Australia have been subjected to repeated heavy rainfalls often temporarily flooding grazing lands and producing some seriously extensive floods with drowning of thousands of sheep. Although deaths caused immediate financial losses they were far from the most serious problem.

The wide inundations of grazing lands and the continued warm wetness of vegetation provided ideal environment for the spreading and development of parasitic infestations to which sheep are highly susceptible. (Note: Australian summer months are United States winter months.)

War against internal parasites of sheep has been sufficiently successful to allow the continued expansion of the vast sheep breeding industry. Under veterinary direction this was possible through the systematic use of phenothiazine, copper sulfate, nicotine sulfate, and other chemicals. These drugs are essential and without them parasitism will spread rapidly and destructively on an industry-wide basis.

The question arises—"Well, why not continue to use them?"

Veterinarians and breeders try to buy them, but the stone-wall answer has been—"Insufficiently produced in Australia and no money permitted to be spent for importing them."

An appeal was presented in December to the Australian Commonwealth House of Representatives in session at Canberra. The story was told and as its result the Minister for Commerce assured the House, "If it is necessary to import supplies of drugs whether from dollar areas or not, to combat this menace, there will be no delay in seeing that dollars are available and that the drugs are shipped as quickly as possible."

And thus, once more the veterinarian has extended his protection.

The American drug industry is ready to ship these drugs.—From B. T. Woodward, Santa Ana, January, 1951.

## Scholarships Assist Public Health Training

With the opening of a new school year, 29 persons have begun postgraduate training on state scholarships in Schools of Public Health and related universities. In this group are 7 physicians, 15 nurses, 3 sanitarians, 2 health educators, 1 public health analyst and 1 veterinarian.

## Instructions on Your Federal Income Tax

By FORREST R. GORIN, *Public Accountant*

The term "adjusted gross income" is, directly or indirectly, a vital factor in determining the Federal income tax liability of a large percentage of taxpayers.

The present law, in effect, divides all deductions into two groups.

One group consists of:

(a) All expenses directly incurred in a trade or business, the deduction of which from total receipts is necessary to determine the net income from that trade or business;

(b) Deductions which represent expenses attributable to property held for the production of rents or royalties;

(c) Expenses of travel, meals, and lodging incurred by an employee while away from home in the service of his employer;

(d) Reimbursed expenses (other than expense of travel, meals, and lodging, while away from home) in connection with his employment;

(e) Deductions for depreciation and depletion allowable to a life tenant, or to an income beneficiary of property held in trust;

(f) Allowable losses from the sale or exchange of property.

The income remaining in the case of each taxpayer, after the deduction of these expenses from the respective kinds of income, is uniformly called "adjusted gross income," and is the figure entered on line 4, page 1, of your tax return.

The other group of deductions consists of the allowable nonbusiness expenses, having no relation to general business activities, which are deductible from adjusted gross income to arrive at net income. To furnish taxpayers with an easy method of legitimately avoiding the burden of having to itemize these deductions in detail and of having to support them with evidence, the law provides a substitute, called the "optional standard deduction for individuals," which the individual taxpayer may use, if he chooses instead of itemizing his actual deductions. The test of whether you should take the "optional standard deduction" or whether you should itemize your deductions is whether or not your itemized deductions exceed ten per cent of your adjusted gross income. The optional standard deductions is ten per cent of your adjusted gross income or \$1000.00, whichever is the lesser. It is well to remember that itemized deductions must be supported by evidence of actual expenditure. Such evidence may be cancelled checks, receipts or invoices.

The nonbusiness deductions referred to in the above paragraph consist of:

(a) Contributions to churches, the Red Cross, the Community Chests, and the Salva-

tion Army. Religious contributions may include pew rents, church "assessments," or "dues." The list also includes non-profit universities, schools and hospitals. The American Legion and the V.F.W. are eligible, as are the Y.M.C.A., the D.A.R., the Boy Scouts, Girl Scouts, The American Heart Association, the American Cancer Association, and the Tuberculosis societies. This list is not all inclusive, but does illustrate the types of organization, contributions to which may be deducted. Contributions are limited to 15 per cent of your adjusted gross income.

(b) Interest of a nonbusiness nature such as the interest paid by a taxpayer on a mortgage on his home, on judgments, delinquent tax payments, personal loans, and installment purchases are deductible. However, on installment purchases, if the interest is not stated separately the interest cannot be deducted.

(c) Deductible taxes include state and local income taxes, personal property taxes, real estate taxes, and in California, state and local sales taxes, but not gasoline taxes.

(d) Casualty losses and thefts are deductible to the extent that they are not compensated for by insurance. Taxpayers are entitled to deduct losses to their property from theft, fire, flood, storms, lightning, freezing, earthquake, shipwrecks, airplane crash, hurricane, and similar casualties including collisions not the result of the taxpayer's willful negligence. Thefts not reported to the police authorities will probably be disallowed by the Bureau of Internal Revenue.

(e) Medical and dental expenses are deductible in the amount that exceeds 5 per cent of the adjusted gross income. Any reimbursement of medical insurance by insurance reduces the deduction accordingly. Medical deduction is limited to \$1250.00 to taxpayer with one exemption, \$2500.00 to married couples filing joint returns and having no dependents, \$3750.00 to married couples filing jointly and having three exemptions, \$5000.00 to married couples filing joint returns and having four or more exemptions.

(f) Miscellaneous deductions include among other items, alimony payments under some circumstances, some travel expense, expenses incurred in your employment, such as special uniforms, etc., expense of preparing your income tax return, and personal automobile license.

The foregoing is not a complete treatment of the subject under discussion. Most items generally allowable as deductions are hedged with restrictions and under some circumstances are not deductible. Therefore, it will be to your interest in preparing your income tax return to investigate thoroughly the legality of the deduction you contemplate taking.

# REPORT OF CALIFORNIA STATE VETERINARY MEETING

Held January 22, 23 and 24, 1951, at the

The January meeting can only be described as an outstanding success. The crowd was huge and on time, and the lectures were good and as nearly on time as is practically possible. It may be even better next time, but will take some doing. Everyone seemed to have a fine time, and no kicks were heard about having to sleep in Woodland or Sacramento. There was no bar, of course, and no lounge to sit around and talk in, but these did not seem to be missed.

## MONDAY

First on Monday morning was the caesarian on the cow, a workmanlike demonstration under lumbar anesthesia, with a new procaine-derivative local anesthetic also being demonstrated. The attendance was very good, in fact more than a hundred members had registered before noon.

## Exhibits

The exhibits were good, and easy enough to find. Veterinarians seemed quite at home in the enormous building (dubbed locally "Rockefeller Foundation") and found their way around as if they lived there.

A cheerful dog sat on a table, hitched to an electrocardiograph, and a not-so-cheerful turkey rambunctiously displayed his sinusitis in a cage. There was an exhibit on feline pneumonitis, so far diagnosed only from the southern part of the state. This resembles the rhinitis-cum-pneumonia that we all see, and is treated with either aureomycin or chloromycetin. Both these antibiotics, and penicillin and streptomycin as well, were displayed in refined form and also being produced by molds.

There was a mastitis exhibition, with the usual tubes of pretty pastel milk, and blood-agar plates burgeoning with staphs and streps, etc., etc. All very pleasant and hopeful, but you are still out of luck if you run up against *Pseudomonas aeruginosa*.

A set of blood counts by students demonstrated effectively that although it is nice to know how to make blood counts, and important to know how to interpret them, you will be wise to let a good lab make the counts. It takes experience to count correctly, and there is also a variation in pipets. If you want to make your own counts, have the equipment double checked or your results may not compare with the lab findings.

Probably nobody saw all the exhibits (there were many more than those mentioned here), but the college will probably be kind enough to repeat them next year. The program was so full that there just wasn't time to look at everything.

## First Session

The program opened Monday afternoon on time, with a brief review of Dr. Beach's contributions to the profession by Dr. Haring. Dr. Beach was one of the most productive men ever to be on the University's veterinary staff, and achieved fame at home and abroad. His services to the veterinary profession are well known to all of us.

Dr. Haring then introduced Dean Hutchison, who welcomed the Association to Davis after its long absence from the campus. He mentioned the many changes that have occurred in the interim, not the least of which is the erection of the great veterinary building. He considered the growth of California's livestock industry in its first hundred years, an industry now unequaled in the world. He deplored the fact that we import animal products from as far east as the Mississippi while only ten per cent of our land is used for agriculture and another million acres in the foothills and bordering the valleys await development. Many problems remain to be solved before we can use our land to the best advantage.

Dr. White responded to Dr. Hutchison's welcome by expressing our appreciation of the privilege of meeting at the fine new school, and our hope for real cooperation between the school and the practitioners.

Next, Dean Hart spoke of the veterinary school and its aims and functions. He emphasized the need for a broad basic scientific training on which the student can build soundly. He spoke of a project for studying cellular antigens, important to public health, and mentioned the Q fever work, and other national problems such as listerellosis.

The desirability of contacts of students with practitioners is undeniable. Dr. Hart asks that those who can use a student during vacation time let the college know their requirements. Practitioners who have already taken students under their wings are well pleased.

Dr. Hart also spoke of the necessary trend toward specialization. Veterinary medicine is now too big a subject for any one man to know much of the total. More specialties are coming up.

## History

The next speaker was Dr. Arburua, our Historian. In a brief talk, bristling with names and dates, facts and figures, he traced formal veterinary education from the Code of Hammurabi down through the blossoming of our state schools and the closing of private institutions. In the eighteenth century, the French school selected high-caliber students from the middle class while the English school deliberately selected riff-raff. For this reason



# VETERINARY MEDICAL ASSOCIATION MID-WINTER CONFERENCE

at the University of California at Davis

veterinarians in England and America are still trying to overcome the setback and attain the prestige which our European colleagues have always enjoyed.

## Viruses

The material presented by Dr. Cox in his talk is not yet prepared for publication but will be made available in the future. He spoke of distemper virus and of the new rabies serum. He told of the adaptation of hog-cholera virus to the rabbit. On the immediately practical side, he warns that serum immunity will not last more than a couple of weeks, and since vaccination does not take effect immediately, we may get an unfortunate gap between passive and active immunity unless the virus follows the serum in ten days or less. He also said the salicylates, such as aspirin, block the antibody-antigen reaction. A fact worth knowing.

## X-Ray Therapy

Myron Thom's talk on radiotherapy was illustrated by a series of very nice slides. In dogs, he finds x-ray most effective on adenocarcinoma of the rectum. Large doses may be used since the area is relatively insensitive. This is not true of man, but the condition does not occur in man though common in dogs. Mammary and oral tumors may also be helped but not as effectively.

Dr. Thom has been working extensively with race horses, and showed pictures of the equipment and manner of use, also of various conditions amenable to treatment. X-rays cause hyperemia, and this causes removal of calcium. A sluggish circulation tends to cause calcium deposition. Some joint and leg conditions are thus well treated by x-ray after a picture has shown the pathological status of the lesion. Clinical improvement may be so rapid that clients must be persuaded to give the animal proper rest afterwards.

## Eye Defects

Inherited abnormalities of the eye, discussed by Dr. Cotterman, were also illustrated by slides. Some of these, in color, were quite disturbing, and most of us were left feeling rather diseased afterward. In ptosis, an eyelid seems to be hitched to the jaw nerves, so that the lid works when the jaw does. In a bad case, it may be necessary to open the jaw to open the eye. In other cases the lid may merely twitch on mastication. Retinitis pigmentosa eventually may cause blindness, and its first symptom is nightblindness. In women it may cause a cat-eye effect, the eyes reflecting in the dark like an animal's. Marfan's syndrome is a combination of dislocated lens with skeletal deformity, consisting most obviously of elongated phalanges and pipestem legs, and

usually associated with decrease in subcutaneous fat. It also occurs in varying degrees. The most unpleasant abnormality discussed was retinoblastoma, also called glioma of the retina. This occurs in babies, and the eye must be enucleated at once or death follows in a few months. If the child's life is saved by enucleation, half of eventual offspring will be afflicted.

## TUESDAY

### Small Animal Section

About 200 veterinarians were in attendance at the morning program, which began promptly at 9:00 a.m. with a paper on laminectomy in the dog by Dr. R. W. Redding.

Protrusion or prolapse of the intervertebral disc as a major cause of posterior paralysis in dogs was first described by Riser in 1946. Since that time numerous practitioners have confirmed his findings by post-mortem examination of such cases.

Dr. Redding described the operation, laminectomy, for correction of the condition in ten dogs. The offending disc was located by injecting lipiodol into the spinal canal and then radiographing. The lipiodol, being opaque, outlined the vertebral canal structures, and disclosed in most cases the protruding disc.

Pentobarbital sodium was used for anesthesia and the animal placed in ventral recumbency. Deep dissection of dorsal lumbar muscles lateral to the spinous process gave access to the prolapsed disc. The disc was removed by curettage. Where careful blunt dissection was used, little hemorrhage ensued, but in those cases where hemorrhage did occur, healing was protracted. Nine of the ten cases reported had favorable outcome.

Dr. Redding stated that further work is necessary to perfect the technic of diagnosis and surgical correction; however, the possibilities of successful laminectomy are encouraging, on the basis of his experience.

A large percentage of posterior paralysis due to prolapsed disc will make satisfactory recovery with rest and palliative medical treatment.

### Uterine Infections

An informative discussion of uterine infections in the bitch was given by Dr. Irwin of Tulsa. He noted that some practitioners had doubted the existence of retained placenta in the bitch. However, this condition is frequently met with in his practice and the consequent inflammation and infection often results in endometritis which may progress into pyometra. Sulfanilamide in oil, the preparation commonly employed for bovine intramammary infusion, was efficacious in many



endometritis cases when injected into the uterus. Use of posterior pituitary extract for two days was recommended to favor complete involution and increase uterine tone. Dr. Irwin expressed belief that pseudocystitis often may be traceable to a previous metritis.

In diagnosing pyometra, he advises obtaining blood counts to supplement clinical symptoms. A typical hemogram reveals leucocytosis of 25,000 to 40,000 cells, anemia with 9 to 12 grams of hemoglobin, and a large characteristic stab cell. This is similar to the picture in late pregnancy. Smaller breeds are affected more than larger, and a vaginal discharge is a favorable sign.

The only remedy is removal of the uterus as soon as the patient's condition permits. Toxic and debilitated patients require antibiotics and copious fluid therapy before surgery is attempted. He employs epidural anesthesia in many panhysterectomies as well as for caesarian section in the bitch.

#### **Cataract**

Dr. Petersen gave an interesting description of surgical correction of cataract, but it was apparent through questions put to him during his lecture that this procedure is highly specialized and few veterinarians undertake it.

He described the intracapsular method, which consists of removal of the lens and lenticular capsule. A few of the pertinent points gleaned from his lecture follow:

Instill 1 per cent atropine into the eye three times a day for one or two days prior to operating. Neosynephrine 10 per cent may be substituted for atropine. Epinephrine should be instilled into the eye preceding surgery. After removal of the lens and placement of sutures in the sclera, inject air or saline into the eyeball to restore volume. Cortisone, 1 cc. to 4 cc. saline, instilled into the eye often relieved inflammation.

#### **Gleaned from Meetings**

Dr. E. C. Jones' presentation was shortened by the lack of time remaining. He elaborated on some of the information he had acquired at various veterinary meetings, stressing the point that veterinarians cannot afford to miss professional meetings. It is important to their work that they learn the newer concepts of the basic sciences of their profession.

#### **Cortisone**

The afternoon session started promptly at 1:30 with Dr. Holm's paper on cortisone investigations. It became apparent that the real indications and dosage of cortisone and ACTH have not been established in veterinary medicine. He recommended dosage to effect, estimating that 100 to 150 mg. per day would be a high dosage for a 20-pound dog, whereas 50 to 70 mg. would be an approximate maintenance dose.

Cortisone injection causes high glycemia followed by glycosuria. The total white count

doubles or trebles, with a neutrophile increase and lymphocyte decrease. Both cortisone and ACTH attack lymph tissue, and this effect is prompting its use in leukemia, although its value here has not been determined yet.

#### **Economics**

One of the most enthusiastically received papers was Dr. Bramer's "Economics of Small-Animal Practice." He directed a few paragraphs toward junior veterinarians, advising them to associate with well-established competent veterinarians in order to gain experience in the practical application of their profession. Such experience is part of a young graduate's education, and in his future practice he will be compensated financially and professionally. The junior veterinarian can often, in many cases, acquaint the established man with new ideas and technics learned in the classroom, thereby making a mutually profitable association.

It is a very impressive practice in a hospital, according to Dr. Bramer, to keep complete records on each case. This makes the client feel that his pet is being given thorough consideration, and in actuality the veterinarian is in better position to diagnose and treat intelligently. Personal telephone conversation with a client is of inestimable value psychologically, and this should be done every two or three days when an animal is hospitalized. The client feels better if reassured by the doctor personally instead of by an employee.

An auditor is indispensable, in Dr. Bramer's opinion. By careful evaluation of hospital records he can advise where to save on expenditures. Lay help is probably the largest single expense in the average hospital, and the individuals employed should be selected carefully. A versatile assistant, who can repair plumbing, paint, carpenter, as well as clean up, is probably the most valuable employee. One can afford to pay him a bonus if he does his work well.

Men make most of the money, but women spend most of it. This is important to the small-animal practitioner, since he will be dealing mostly with women. The doctor must be neat, courteous and agreeable. His sincerity and devotedness to the client's interest, the pet, should be evident. The highly sociable nature of women makes them your best boosters or your worst knockers, since they talk about you across the bridge table and over the telephone.

The most opportune time to make a good impression is when the client calls for information about his puppy, or brings it in for examination. Information about vaccination, feeding, worming, and so forth should be given. The client should be shown where his puppy would be kept if it should need hospitalization. He is in a better mood to be shown these facilities at this time than when the dog or cat is actually sick.

Before hospitalizing animals it is wise to determine whether the owner can afford such care. In many cases it is better to treat the animal in the office and dispense or prescribe medicine to be administered at home.

It creates better public opinion if the fees in a given area are uniform. Fee differentials create doubt and confusion about the entire profession. Concerning discounts to your friends, Dr. Bramer cited an experience of his own. A close friend, a dentist, brought his dog in for examination and treatment. When asked what the fee was, Dr. Bramer said that out of friendship there was no charge; the dentist replied, "Who will pay you here, except your friends? Remember, no one except a friend will bring a dog to you. Your enemies will never bring an animal in. So charge your friends your just fees."

#### Laboratory Tests

Dr. Irwin appeared on the afternoon program again with a discussion of the clinical laboratory in practice. Blood counts and differential counts are quite routine where doubt exists concerning the type of infection involved. Sedimentation rate is determined easily and quickly, and gives considerable information to the clinician. Urinalyses including urea determination are routinely employed.

#### Hepatitis

The panel discussion of infectious hepatitis and related diseases proved informative. Dr. Craig, moderator, described some of the cases he has seen. The rapid onset, with some petechial hemorrhage on the gums and buccal mucosa, tonsillitis, and tense abdominal wall, were symptoms noted. In peracute cases, there may be epileptiform convulsion and death before other symptoms appear. Fox encephalitis serum is highly efficacious if treatment is begun before encephalitic symptoms occur.

Dr. Hage read Rubart's detailed symptomatology and morbid anatomy in the canine hepatitis cases he encountered.

Dr. McClintock discussed symptomatology of leptospirosis as compared with hepatitis. Leptospirosis produces marked leukocytosis as opposed to leukopenia in hepatitis. Stiffness of hindparts is a fairly constant symptom of leptospirosis.

Dr. McBride discussed his experience with hepatitis, and compared the symptoms to those of canine distemper.

#### Heterogenous Infection Chains

No veterinary meeting of note in California would be complete without a paper by K. F. Meyer, and we were glad to hear from him again after too long an absence. His talk on old and new heterogenous infection chains included a discussion of the leptospira problem as it relates to public health. Dr. Meyer strongly advocates that all dogs be treated with aureomycin or streptomycin to insure

that the urinary system is free of the spirochetes. He does not consider that all urinary spirochetes are necessarily leptospira.

Dr. Meyer mentioned his new concept of brucellosis infection, indicating that many people recover from this debilitating disease only to become reinfected. This differs from the older concept that relapses occur. He stated that at least twenty days of treatment with aureomycin are required to affect brucellosis in man.

#### Banquet

Contrary to custom, the banquet began on schedule, and there were very few stragglers. A large crowd was present to enjoy the excellent steak dinner. Dr. Peoples, presiding, was commendably brief in his introduction of the personages present, and pleasantly if ruefully humorous about life in Davis in the era of atomic threat. He introduced Dr. Jones, who then told us all about atheroscleroma. This was an unexpected subject for a banquet speech, but none of the audience was scared into acute indigestion.

'Atheroma' is from the Greek *athere*, meaning meal or mush made from it. This is because of the shiny white mealy look of the tumors. These growths are fatty, containing cholesterol, and form here and there in the arterial walls of most people. Because of recent work done by Dr. Jones and his colleagues, they are now believed to result from abnormal cholesterol metabolism, or at least to occur when certain types of cholesterol molecules are present in the blood stream. Identification of molecules cannot be made chemically, since such processes alter them, and progress in the study has only been possible since the development of the ultracentrifuge. By means of this instrument the molecules can be isolated physically; but still it is a tedious process and assembly-line technics are impossible.

Atheromata may cause no trouble whatever, and their presence be unrecognized, but they may grow large enough to interfere with the flow of blood through the vessel. The growth may break off, causing hemorrhage into the vessel walls, and there is a tendency for blood to clot on their surfaces. When a vessel is plugged, an infarct occurs in a few minutes. In arteries of the heart, this causes coronary thrombosis and may be immediately fatal. In the brain, a stroke results. Atherosclerosis causes the death of fifty to sixty per cent of the population, and the rate increases as other causes of death are controlled.

Feeding of large amounts of cholesterol to rabbits over a period of months caused atherosclerosis in those showing the abnormal molecules; the condition regressed when cholesterol feeding was discontinued. As might be expected from this, the rate is significantly less in populations where fats and proteins are not readily available, as in Europe under war and postwar conditions.

Continued on next page

Hypothyroidism and nephroses are conditions which cause a tendency to atherosclerosis. It has been found that dogs and chickens can be affected. The disease in man lasts twenty years or more, and the number of people showing the abnormal molecules increases with the age-group. Women are relatively free until the menopause, but then rapidly catch up with the men.

### WEDNESDAY

Wednesday's sessions were well attended. After the film, the talk on isotopes, squeezed out of the June program by lack of time, was presented by Dr. Kleiber.

#### Isotopes

Isotopes have the same atomic number as ordinary atoms and the same chemical and physiological actions. They are produced and made available for research by bombardment in a cyclotron. P32, for example is made from sulfur (justifying the alchemists' dream), and may become sulfur again. It would be interesting to see what happened in heredity if P32 replaced an ordinary phosphorus atom in a gene, and changed back into sulfur at the right moment.

Because these isotopes can be traced, the progress of atoms through the body can be checked. For example, if 15 grams of a mineral were fed, and the same amount appeared in the feces, one might suppose the mineral had not been digested. When the isotope is fed instead, one might find that only 4 grams actually passed through and the other 11 went into the body cells, the rest of that found in the feces being a metabolic product. Actually, the turnover of phosphorus in the blood is very rapid, a matter of minutes; that in the bones is slower, and that in the brain about the slowest of all. (This shows that the human brain is as sluggish as we thought.) Not only can the progress of an isotope through the body be traced, but the body itself may be traced to advantage. For example, fish "labeled" with isotopes can be returned to the water in perfectly normal condition. Counting of labeled fish in later catches will give an estimate of the fish population. Finding of labeled fish elsewhere will indicate marine connections between bodies of water.

Work with isotopes is of course just commencing, and many interesting and valuable facts will certainly emerge as work progresses. For example, Dr. Kleiber suggests, we may find out the real cause of milk fever and the influence of vitamin D on metabolism.

#### Q Fever

Q (from "query") fever is a topic of importance in California, and the work already done is stupendous. Dr. Lennette brought us up to

date on progress. Although in Australia the disease is tick-borne and progresses thus indirectly from small rodents to cattle and man, arthropod vectors are unimportant in this country.

In the Los Angeles area, cattle are the main source of human infection, and there is no seasonal variation. In the northern area, sheep and goats are the main source and the human incidence reaches a peak in late winter or early spring. This effect is probably due to the fact that at parturition the secretions are very highly infective.

Only two thirds of the patients have had known contact with livestock, but it is certain that the germ can be air-borne or clothes-borne. The rate of infection is higher in animals that associate with people.

Control is complicated by the fact that in test, since positive animals may have recovered, while negative animals may be teeming with coxiella at the next parturition.

Dr. Cox, for whom *Coxiella burneti* was named, mentioned natural infection of the wood tick and said that Q fever is the most prevalent rickettsial disease in the world. The organisms are highly concentrated in placental membranes and secretions, and even more concentrated in infected hen's eggs. There are enough germs in one such egg to infect every person in the world.

Coxiella is also one of the most resistant organisms known. It seems that vaccination may be possible, since public health workers, vaccinated against Rocky Mountain spotted fever, did not suffer from Q fever when almost everybody else in their building contracted it. Vaccine used on them came from ticks later found to have been infected with Coxiella.

Q fever has not been found in swine. Its possible relation to abortion outbreaks remains to be investigated.

The symptoms of Q fever may resemble those of malaria or mild flu. As described by Dr. Cox, they suggest undulant fever. Onset is usually abrupt, with severe localized headache, frontal or occipital; malaise and fever of 103-104 last seven to ten days, accompanied by chills and sweats. Flu only lasts five days, which may aid diagnosis. The patient is prostrated and may be sick for two months. The disease is milder in those under 30. Convalescence is prolonged, and the patient is persistently fatigued. Relapses may occur, since aureomycin does not eliminate the organism although it gives a clinical cure.

#### Abortion Discussion

Last on the program was a much appreciated discussion of recent epidemics of bovine abortion, by Dr. DeLay. Dr. Traum summed it up neatly when he added "causes unknown".

More cases were examined in 1950 than in

previous years, none due to trichomonads or brucella, and only two to vibrio. *E. coli* and other coliforms were cultured in 20 per cent, others yielded staphylococci, streptococci, other germs or no germs. Certain causes could not be assigned, and viruses or rickettsias may have been involved. Dr. DeLay wondered about the possible role of sprays and insecticides, particularly benzene hexachloride.

Dr. Cameron said he thought nutritional factors should be considered, but did not think vitamin A was involved in cases he had seen. He was not too sure of the value of analysis of fetal livers for vitamin A. He also did not think he had seen cases where sprays or insecticides such as benzene hexachloride and lindane could be blamed, so far. He spoke of an outbreak in a herd where Q fever was endemic, and mentioned another outbreak in a herd where there had been an undiagnosed hemoglobinuria. He wondered about inclusion bodies found in some fetal livers.

Dr. DeLay asked that veterinarians send samples when abortion storms occur, even if brucellosis is suspected. Stomachs, tied off to retain contents, livers and lungs, should be packed with dry ice and sent by air when possible. Ordinary ice and express shipment may be adequate. Men south of Fresno should ship to San Diego. He also asked that as good a history as possible be given: age breeding, percentage of abortion, time of abortion, vaccination record, and any other pertinent information.

Dr. Fincher said that outbreaks described reminded him of virus abortion of mares. He asked whether abortions discussed had occurred in herds to which new animals had recently been added, or had been preceded by diarrhea. He had seen "virus diarrhea" followed by abortion. Dr. DeLay and Dr. Cameron thought they had not seen such cases.

Dr. Jasper said he had been asked, particularly by beer breeders, if they should sell off their cattle after one of these unexplained abortion storms and start fresh. He had been advising that recurrence was improbable, since immunity was likely. He asked practitioners to report on this aspect. Dr. Twisselman said that he had seen a recurrence in a herd, but not in the same animals. This year the younger ones, and some older ones, aborted. They seemed to prefer to abort at about two and a half years.

It was generally agreed that this discussion, although it left actual causes up in the air, was of real value, and that it should definitely be repeated so that information could be gathered, correlated, and put to use.

The January meeting then adjourned.

*Due to limited space, the large animal sessions will be reported in the next issue along with some of the papers.*

## Registration, Midwinter Conference

Those attending the Midwinter Conference at Davis, January 22, 23 and 24, 1951 were:

F. R. Abinanti, Wm. G. Aldridge, F. W. Andrews, John M. Arburua, Joseph M. Arburua, E. M. Austin, H. M. Atkinson, Donn E. Bacon, R. A. Bankowski, Robert A. Ball, D. E. Barr, W. C. Bateman, Leland J. Bell, W. T. Berner, Thomas A. Berry, G. P. Bertetta, T. G. Beard, Edward C. Bland, Arthur J. Boero, Maurice Boevers, I. N. Bohlender, A. J. Bonaci, H. P. Bonnikson, A. G. Boyd, Ray H. Bradbury, C. N. Bramer, E. R. Braun, F. M. Brennan, W. W. Brimer, C. S. Brooks, C. E. Brown, Joseph F. Brown, W. L. Brown, A. L. Bullock, Ben Burdo, Henry C. Burns, H. C. Burns Co., represented by George McConnell and Alan W. Newman.

California Medical Supply Company, R. J. Strassenburgh Co., represented by H. G. Gilbride, Charles P. Decrevel; H. S. Cameron, Harvey W. Campbell, A. K. Carr, Howard Carroll, G. W. Cangl, Central City Chemical Consolidated represented by Leo Lindauer, Floyd Myers and DeWitt Wilson; Albert Chafets, E. F. Chastain, J. F. Christensen, J. M. Christensen, John D. Chudacoff, David S. Clark, H. E. Clarke, Nelson E. Clemens, Robert N. Clemens, J. A. Coad, G. B. Collins, R. L. Collinson, R. W. Collinson, C. H. Colton, Russell P. Cope, Max C. Coons, C. D. Cooper, Anthony J. Costa, John S. Cranfield, John Craig, Charles Crane, Cutter Laboratories, represented by W. W. Walker and R. B. Houlihan.

Wm. E. Daseler, G. L. Dayman, Warren J. Dedrick, Paul D. DeLay, John D. DeMott, H. E. Detlefson, W. M. Dicke, R. S. Dickson, W. I. Dill, S. M. Dingwall, Robert A. Dove, Carroll E. Dow, R. E. Duckworth, Wm. M. Dungan, Mary Knight Dunlap, George Ejerhart, P. I. Egan, J. M. Elsenhower, Robert N. Erickson, Stuart R. Extstrom, C. J. Ferreira, M. G. Fincher, Norman T. Freid, George Freiermuth, Ralph A. Foster, S. M. Foster, S. A. Fuller, Joseph Giambroni, J. W. Gilmore, R. P. Gobler, S. M. Goldberg, R. B. Griffenhagen, C. B. Griffiths, Harold H. Groth, Newell P. Groves.

Tom Hagan, T. J. Hage, Gordon D. Hambrook, Wm. H. Hammond, G. G. Hampton, P. H. Hand, Robert T. Handel, C. M. Harling, Robert J. Harris, Earl Harrison, J. W. Harrison, Max W. Harry, Clifton Hart, George Hart, R. E. Harvey, Ronald T. Hauge, Ben O. Hebert, L. O. Henrich, J. M. Hicks, W. H. Hilts, L. W. Holm, C. D. Hoover, M. A. Horning, John P. Hughes, E. H. Humphrey, Weden P. Humphrey, L. M. Hurt, A. R. Inman, W. F. Irwin, Wilman Ivy, H. W. Jacobson, R. J. Jakotich, K. C. Jarvis, Donald E. Jasper, Norman Jerome, R. V. Jessup, Kenneth L. Johnson, P. E. Johnson, Eugene Jones, Jesse A. Jones, C. W. Julian, Logan M. Julian, D. M. Jungerman.

Wendell L. Kanawyer, E. W. Kay, O. K. Kendall, Orville A. Kennedy, William J. Keiber, John M. King, Floyd W. Koebel, Oscar J. Kron, Walter J. Kreba, Peter H. Langer, R. F. Lapham, Lewis Larsen, I. G. LaRue, Lederle Laboratories, represented by Ken Olson, A. C. Gerken, G. L. Capitanian and A. E. Adams; E. G. LeDonne, Edward G. LeDonne, Jr., L. D. Leonard, Milton Levy, Robert Lewis, Dean C. Lindley, W. Steele Livingston, Paul C. Lockhart, F. C. Love, M. Lunstra, D. W. Lunt, Peter Lustig.

Stewart Madin, David Madsen, E. J. Mahler, Mervyn Mahoney, Geo. E. Martin, K. F. Meyer, L. D. Meyers, Robert B. Michael, S. T. Michael, Duane L. Milbradt, George H. Muller, B. F. Murray, A. M. McCapes, N. L. McBride, Philip L. McClave, Geo. E. McClintock, Hugh E. McClung, W. M. McDonald, T. M. McIntyre, Kenneth G. McKay, D. E. McKencher, Thomas E. McKnight, George Nelson, Nels Nelson, M. A. Northrup, John L. O'Hara, Robert W. Olsen, P. C. Olson, Robert Ormsbee, J. W. Osebold, H. I. Ott, C. B. Outhier, C. H. Ozanian.

C. J. Padfield, C. R. Palmer, Horace Parker, R. D. Parrish, John H. Pastor, Emmet Paul, V. C. Paulson, Ernestine K. Payen, Louis J. Payen, Christian J. Peetz, S. A. Peoples, S. K. Perry, K. J. Peterson, Wm. M. Peterson, R. E. Philbrick, S. E. Philips, Pitman-Moore Company, Lyle D. Potter, K. Richard Preusser, Fred B. Pulling, A. R. Puterbaugh, C. L. Ranney, H. G. Reagor, F. E. Reddert, Harry Reddick, Charles H. Reid, Fred L. Richelleu, Robert E. Richter, Wm. K. Riddell, I. M. Roberts, James W. Roberts, Melvin P. Roberts, S. R. Roberts, A. S. Robertson, W. H. Rocky, N. A. Rothenberg, R. R. Root, A. J. Ronase, A. C. Rosenberger, Arnold S. Rosenwald, William G. Rowe, J. L. Ruby.

(Continued on page 25)





## LARGE ANIMALS DEPARTMENT



### A Case of Parturient Hemoglobinemia in Fresno County of California

By KENNETH L. JOHNSON, D.V.M., *Fresno, California*

The San Joaquin Valley, particularly the area surrounding the City of Fresno, has not been described as a phosphorous deficient area; therefore, when four cases of Parturient Hemoglobinemia in dairy cattle occurred in immediate succession on one farm in Fresno County, it was not with ease that we were able to discern the trouble. Lack of phosphorous appears to play a very important role in the producing of Parturient Hemoglobinemia.

Deaths from this condition began to occur on this farm at the end of February, 1950, and by the middle of March, three animals had died and one more case was developing. Neither this farm nor neighboring farms have had any history of hemoglobinuria in cattle. Hemoglobinuria is pathognomonic of this condition.

The first two cows to contract this fatal condition were beginning their second lactations. The third fatal case had begun its third lactation, while the fourth animal, which we saved, was beginning a second lactation. These animals were big Holsteins, giving approximately nine gallons of milk daily. The owner had ten more young cows to freshen shortly, which were equally as good as the four which had contracted the condition.

Symptoms which began to develop approximately two weeks after calving were similar to those described by Madsen and Nielsen.<sup>1</sup> The animals had a fever of 102 deg. F. to 105 deg. F. the first day, and the temperature subsided to normal, or below normal, the second day. Heart rate and respiration were fast. Droppings were loose and sticky in two cases and fairly solid in the other two cases. Wine-colored urine occurred as the first symptom of illness, and continued until death, which usually occurred on the second or third day. The blood appeared thin and coffee-colored.

Post mortem appearances also were similar to those described by Madsen and Nielsen.<sup>1</sup> Predominantly there was jaundice of the entire body and organs, enlarged gall bladder and emphysema of the lungs. Approximately one-half pint of thick bloody exudate was present in the uterus in these cases; however, there did not appear to be an inflammation of the uterine walls.

Bacteriological examination of specimens sent to the state laboratory were negative for pathogens—no evidence could be uncovered to suspect this condition as being a contagious disease.

A state laboratory report on one blood sample is submitted here:

1. Anaplasmosis examination: Negative.

2. Blood cell examination: Marked change in size and shape of red blood cells, plus the presence of many stippled and nucleated red blood cells. No acromia were observed; however, there were numerous giant platelets.

3. Lymphocytes, 39 per cent; Polymorphs, 56 per cent; Monocytes, 2 per cent; Eosinophils, 3 per cent. An abnormal percentage of polymorphs were in the form of immature non-segmented forms.

Intravenous injections of glucose and saline with huge injections of penicillin and streptomycin did not seem to alter the course of the fatal cases.

Autopsies were conducted and blood and tissue specimens collected by Dr. I. G. LaRue of the State Department, whose assistance was invaluable in diagnosing and making recommendations for treatment. After the third death, it became clear that the pattern definitely indicated the disease Parturient Hemoglobinemia was present. Apparently this is an acute phosphorous deficiency as our treatment later seemed to prove.

The greatest contributing cause to this phosphorous deficiency can be suggested to be due to the feeding of Thompson raisins as the complete replacement for a grain mix composed mainly of barley. Raisins are very deficient in phosphorous. Surplus raisins from packing houses in this area had been purchased by the government and sold to farmers at a discount for dairy cattle consumption, assuming that they were equal to barley in food value for cattle. Thompson raisins had been fed heavily to these cattle since the first of the year 1950.

As little pasture was available at this time of the year, the remainder of the diet consisted of alfalfa hay. The land on which this hay was grown had been farmed for over thirty years without the addition of fertilizers or mineral compounds. This mineral depleting practice is recognized as dangerous by many workers and elaborated on by Madsen and Nielsen.<sup>2</sup> It is believed that the barley which was raised on other land, and fed here for many years had supplied a considerable amount of phosphorous for these cattle. There had never been a case of bone chewing or any other form of aphosphorosis in this herd to my knowledge.

<sup>1</sup>Madsen, D. E. and Nielsen, H. M.: Parturient Hemoglobinuria of Dairy Cows. J.A.V.M.A. 94 (1939). 577-580.

<sup>2</sup>Madsen, D. E. and Nielsen, H. M.: The Relationship of Parturient Hemoglobinemia of Dairy Cows to Aphosphorosis. 21 (1940). 81-89.



We began treatment of the fourth animal to contract this disease, which was the first animal we saved, approximately twelve hours after the appearance of blood in the urine. We administered one and one-half ounces of sodium phosphate intravenously and gave fourteen and one-half ounces with stomach tube. This was repeated the second day, but we gave only four ounces per os. The third day we duplicated the treatment of the second day, but on the next few days we gave only four ounces as a drench. Whereas death occurred on the second or third day of the three previous cases, this animal appeared to be gaining strength. Improvement was marked until the sixth day when the animal appeared to relapse. It was our suspicion at this time that we had administered phosphorous out of proportion to calcium, perhaps causing injury. We therefore gave the animal 500 cc. of 23% calcium gluconate and a remarkable immediate recovery began. At the first sign of improvement the animal began to lick salt, eat dirt, and chew hard objects, continuing this for two weeks until recovery was complete.

All other heavy lactating animals were drenched for a few days with a mineral compound, strong in phosphorous content. Mineral compounds are now being routinely placed in the dairy mix.

The alfalfa hay on this farm was tested by Harold Goss of the University of California at Davis. He found the hay to contain 0.19% phosphorous, which he stated was a little low, but hardly low enough to cause a phosphorous deficiency.

In an attempt to analyze this situation, we reason thus: Parturient Hemoglobinemia is a post-parturient condition similar to Acetone-mia and Milk Fever. An extreme calcium deficiency of feed rations is not always necessary to cause Milk Fever. The extreme quantity of milk given by these cows, their age, and the deficiency of the raisins undoubtedly had more to do with the development of this condition than anything.

It was decided to test the hay also for Molybdenum content since the work of Comar, Singer, and Davis<sup>3</sup> has suggested an interrelationship between Molybdenum and phosphorus. Harold Goss of the University of California found that the hay contained 4.0 parts Molybdenum per million, which he stated was too low to cause trouble, so we did not pursue this phase any further.

During the remaining months of the year 1950, that I have observed this herd, we have treated two cases of Milk Fever. These are the first cases which have ever appeared on the place, to our knowledge. There have been several mummified calves and two nympho-

maniacs. These two conditions are also unusual on this ranch; however, the owner by selection has just in the last few years reached the heavy production which he desired of his cows.

## Registration, Mid-Winter Conference

(Continued from page 23)

F. H. Saunders, Kermit Schaaf, L. E. Schafer, O. W. Schalm, Harold J. Schmidt, A. Mack Scott, William J. Seeley, Carl M. Sepponen, Sharpe and Company, represented by Gabe Sharpe and Don Korn; Richard A. Shea, R. E. Shigley, Gordon Shultz, Milton Schmidt, Jr., Ernest A. Siegel, Charles C. Smith, I. C. Smith, Rollin R. Smith, W. E. Smith, Henry L. Sommer, Ray Sprowl, J. E. Stacy, Charles D. Stafford, Robert L. Stansbury, William Stansbury, Clark J. Stillinger, Reginald Stocking, D. E. Stover, J. E. Stuart, Mark Summers, R. P. Swartz.

Robert Talcott, Myron Thom, W. W. Thomas, C. Edward Taylor, Rex Taylor, Theodore F. Taylor, R. J. Tompkins, V. Tovovic, C. S. Travers, F. B. Walker, Jr., R. H. Walker, Warren Walker, Jay Wallis, C. C. Warkentin, Frank Wayland, Ralph Westfall, A. J. Whitaker, B. B. White, Floyd H. White, Leslie C. White, J. R. Whitman, C. E. Wickett, F. P. Wilcox, Kerry Willetts, Fred W. Williams, Ronald T. Williams, W. W. Williamson, John E. Wion, J. E. Winchester, W. J. Winchester, John F. Winn, L. B. Wolcott, G. B. Woodward, G. W. Worrell, S. Z. Zaks, W. J. Zontine.

## Mid-winter Conference Arrangements Committee

The committee on local arrangements for the mid-winter conference just held on the Davis campus of the University of California is to be congratulated for the splendid way in which they managed every last detail of the meeting. Dr. D. E. Jasper was chairman of the committee composed of Dr. William Mathey, charge of meeting rooms and equipment; Dr. L. M. Julian, charge of exhibits; Dr. J. D. Wheat, charge of the banquet, and Dr. T. J. Hage, charge of housing.

## Joseph Arburua for AVMA Executive Committee

At the business meeting of the California State Veterinary Medical Association's last midwinter conference, it was unanimously decided that Dr. Joseph Arburua would be California's choice to represent the Sixth District, comprising Arizona, California, Canal Zone, Central America, Colorado, Mexico, Nevada, New Mexico and Utah, for nomination to the Veterinary Medical Association's Executive Committee. Local association secretaries please make note of this matter.

## American Animal Hospital Association's 18th Meeting

The forthcoming 18th annual meeting of the A.A.H.A. will be held in Atlantic City, N. J., May 2-5, 1951. Chalfonte-Haddon Hall, headquarters hotel, has reserved the luxurious lounge floor and Vernon Room for meeting space.

<sup>3</sup>Comar, C. L., Singer, Leon, and Davis, George K.: Molybdenum Metabolism and Interrelationships with Copper and Phosphorous. The Journal of Biological Chemistry, Vol. 180, No. 2, September, 1949.

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## ✦ BOOK REVIEW ✦

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### **Handbook on the Handling of Animals and First Aid**

*Prepared and issued by the National Veterinary Medical Association of Great Britain and Ireland*

*Reviewed by STANTON JAMISON, DVM*

This handbook has been issued by the N.V.M.A. in response to a demand for a suitable test for those taking short courses of training in animal first aid. The general outline of the work is similar to a human first aid manual in that only conditions requiring immediate action are discussed. The section on first aid procedures proper is prefaced by a chapter discussing methods of approach and restraint to be employed in handling large and small animals. The information given in this part of the book will be of value to the neophyte only, as the discussion of restraint is not detailed. The advice given, however, is generally good though elementary. Proper technique for the oral administration of drugs to dogs and cats is covered in this section. There is no information given on methods of administering drugs to large animals. A brief outline of general anatomy and physiology follows. The balance of the booklet (121 pages) gives a more complete outline of comparative anatomy of the domestic animals by anatomical systems; followed by alternate chapters of first aid treatment to be applied in emergencies involving these systems. For example, a chapter on the skeleton is followed by a discussion of fractures, etc. Appropriately enough, the chapter on connective tissues is followed by a chapter on dressings and bandages.

This book is well adapted for use by the layman. The information given is clearly presented in simple language. The user needs no prior training in anatomy or physiology. All the drugs or chemicals advised for the relief of burns or as poison antidotes are generally available in the United States. It would be a good manual for the pet owner or for use as a text in farm training courses in this country.—172 pages, N.V.M.A. Publications No: 20 Price 5 shillings.

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**BUILDING THE PEACE, FOREIGN AFFAIRS OUTLINES.** Information relating to the United Nations today, growth through experience, growing pains, the guiding spirit—peace, and spotlight on disagreement. 1950. Four pages. 5¢. Catalog No. S 1.70/3:52. Superintendent of Documents, Government Printing Office, Washington 25, D. C.

### **AVMA Opens Nominations for 1951 Humane Act Award**

Veterinarians giving addresses before youth organizations and civic groups this winter and spring are urged to include a reminder about the 1951 AVMA Humane Act Award.

This award, consisting of a \$100 U. S. savings bond and a framed certificate, is given each year to a North American boy or girl, not over 18 years old, who has shown exceptional kindness to animals.

Although deeds in behalf of dogs and cats have predominated in the winning column since start of the award in 1944, the AVMA committee in charge of this project emphasizes that outstanding kindness to large animals is just as acceptable in determining the winner.

"Up to now, most of the nominations have come from the public, but this year we would like to see an equally large number of entries submitted directly by veterinarians and students in colleges of veterinary medicine," said Dr. A. R. Theobald of Cincinnati, chairman of the award committee.

Dr. Theobald said that nominations from veterinarians and students will be accepted until May 1, 1951, at AVMA headquarters, 600 S. Michigan Ave., Chicago 5, Ill., or they may be addressed to Dr. Theobald, 4545 Reading Rd., Cincinnati 29, Ohio.

The winner will be announced on August 20 at the opening of the 1951 AVMA convention in Milwaukee, Wis.

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#### **Applications**

F. W. Andrews, Newman, Vouchers: Harry E. Reddick, Milton Schmidt, Jr.

Robert J. Harris, Turlock, Vouchers: Harry E. Reddick, Robert Ormsbee.

Rankin W. McIntyre, Los Angeles, Vouchers: C. E. Wicktor, R. H. Scofield.

Robert B. Michael, Culver City, Vouchers: E. R. Braun, R. N. Clemens.

Duane Milbradt, Gridley, Vouchers: Hugh Cameron, A. R. Inman.

William M. Petersen, Lodi, Vouchers: Joseph Brown, Jay Hoop.

George M. Thue, Fullerton, Vouchers: R. L. Griffith and H. I. Ott.

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#### **Dr. J. R. Harris Appointed Medical Advisor**

J. R. Harris, D.V.M., has been appointed Medical Advisor of the Veterinary Division of the S. E. Massengill Company.

Dr. Harris has been employed by the S. E. Massengill Company since January 1, 1949. Prior to that time he was engaged in private practice. During World War II he was a Captain in the Veterinary Corps.

# OPPORTUNITIES

## Classified

5c a word, minimum \$2.00. 25c extra when mail is handled by office. Cash with order.

## For Sale

Pet Hospital, 2-year-old building; oldest established practice in thriving desert city of 35,000. Good clientele; 32 steel kennels, outdoor runs, excellent location. \$10,000 will handle. Must sell due to domestic difficulties. Box 3-D, care of Mr. Charles S. Travers, 3004 16th Street, room 208, San Francisco 3, Calif.

Growing mixed practice in central California in one of the state's richest districts. Modern, completely equipped, small animal hospital and extensive large animal practice. Two veterinarians can handle with small labor overhead. Gross \$48,000 in 1950 will increase in 1951. We will sell for \$40,000; limited terms available. Will stay with new owners for a reasonable time. Box 3-A, care of Mr. Charles S. Travers, 3004 16th Street, room 208, San Francisco 3, Calif.

## Equipment for Sale

Equine dental set, speculum molar extractors, cutters trephins, floats. J. F. Fawcett, 538 Monte Vista, Azusa, Calif.

## Opening

Veterinarian wanted to fill position of associate veterinarian in mixed practice in town 6500. Practice consists of artificial insemination, dairy practice, registered beef herds and small animal work in a new hospital. Salary depends on ability. Must have car. Dr. F. B. Walker, Jr., 331 W. Ohio St., Escondido, Calif.

## Opening Wanted

Wanted—Full time work in small animal hospital by California licensed veterinarian. Willing to help with kennel work. Write Box 3-B, CSVMA, 3004 16th Street, room 208, San Francisco, Calif.

Wanted: Assistantship, or practice for sale in California. Recent graduate of approved school. Good appearance. Hard worker. Answer Box 3-F, care of CALIFORNIA VETERINARIAN, 3004 16th St., Rm. 208, San Francisco, 3, Calif.

## Will Buy

Small animal hospital wanted—Experienced veterinarian desires to purchase or lease modern small animal hospital, either one or two man practice. California license, married, service exempt. Address Box 3-C, care of Mr. Charles S. Travers, 3004 16th Street, room 208, San Francisco 3, Calif.



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## 4 Buco Firsts

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**DERMA-SEPT**—Bactericidal Liquid Soap containing the new and remarkably effective Hexachlorophene (G-11) 5%.

1—Cumulative and Residual in Action. 2—Free Lathering. 3—Non-Irritating. 4—Economical.

One gallon .....	5.00	Eight gallons .....	34.00
Four gallons .....	18.00	Twelve gallons .....	48.00

**TRI-SUL**—Combination of three effective sulfonamides for parenteral treatment of mixed infections in all animals. Contains: Sulfathiazole —6%, Sulfamethazine—3%, Sulfapyridine—4%.

1—Well Tolerated. 2—Versatile. 3—Stable. 4—Effective. 5—Economical.

6 x 250 cc. ....	11.75	3 doz. 250 cc. ....	66.00
12 x 250 cc. ....	22.60	6 doz. 250 cc. ....	129.50
12 doz. 250 cc. ....	250.00		

**VITA-MIN-ORAL**—A complete, palatable, liquid vitamin-mineral supplement with Liver for all animals. Each fluid ounce contains:

Vitamin A .....	10,000 U.S.P. units
Vitamin D .....	2,000 U.S.P. Units
Vitamin B <sub>1</sub> .....	5.0 Mg.
Vitamin B <sub>2</sub> .....	3.0 Mg.
Vitamin B <sub>6</sub> .....	0.25 Mg.
Niacin Amide .....	20.0 Mg.
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Iron and Ammonium Citrate .....	390.0 Mg.
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18 ounces .....	1.25	Four gallons .....	8.50
1 doz. 18 ounces. ....	12.50	Eight gallons .....	8.00
One gallon .....	9.00	Twelve gallons .....	7.75

**CELLU-LAX**—A superior bulk laxative tablet for dogs and cats. Contains Methyl Cellulose in a specially formulated base. Designed to:

1—Remove Hair Balls. 2—Overcome Chronic Constipation. 3—Restore Normal Bowel Movements. 4—Rectify Environmental and Dietary Diarrheas. 5—Avoid Harsh Irritating Effects of Other Laxatives.

100 tablets .....	.75	1000 tablets .....	6.50
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## In Memoriam

### JERRY RAYMOND BEACH—1888-1951

The passing of Doctor Beach at his home in Davis on January 4, 1951, will be sad news for his many friends throughout the world. Dr. Beach was born December 21, 1888, in West Danby, a small village in the beautiful Finger Lake section of New York state. When he reached high school age he won a scholarship to Phillips Academy at Andover, Mass., and there he played on the football team. With the help of prizes for excellence in scholarship and various odd jobs he remained self-supporting.

After receiving the degree Doctor of Veterinary Medicine at Cornell in 1913 he worked as assistant in veterinary diagnosis at that University and during the year was elected to Sigma Xi, a national honor society. Election to its membership is limited to students and graduates considered likely to succeed in independent research or who have already succeeded.

In 1914 he accepted an instructorship in the University of California at Berkeley, but before the year was over he transferred to Davis for research on diseases of poultry. This transfer was made possible by a federal grant of one thousand dollars. The grant was sufficient to pay for only six months, but by the end of that time Dr. Beach had demonstrated superior ability to help poultrymen, and California Agricultural Experiment Station funds were made available to continue his services.

For the remainder of his life he continued to render outstanding service to the poultry industry as well as producing many publications of scientific merit. He was advanced through various academic and Experiment Station ranks to a full professorship in 1931. It is noteworthy that after receiving the security and tenure of a professorship the curve of his efficiency continued to go upward and at the age of 60 his days of work began as early and lasted as long as ever, while his skill had increased both in laboratory and on cooperative poultry farms selected for his experiments.

In 1919 Doctor Beach transferred back to the Berkeley Campus of the University where for 30 years his work benefitted by association and cooperation with scientific departments there. In 1949, after the completion of the veterinary science building with superior facilities for experimental work, he again returned to Davis.

Among the many beneficial results of his research, mention should be made of his discovery that much of the heavy loss to poultrymen from diseases of the head, throat, and

kidneys were caused primarily by a lack of vitamin A in the rations, and all that was needed to prevent the trouble and also quickly cure the sick birds was a proper amount of kale or other greens in the feed. He found that fish liver oil could also serve the same purpose. Up to 1921 when Doctor Beach announced this discovery the poultry industry in California had lost millions from diseases brought on by the dietary deficiency. Since then the losses from such causes have been practically nil except occasionally on farms operated by beginners.

Another major activity was his study of avian coccidiosis which led to the use of skim milk products as a means of controlling that disease. This discovery and its immediate application on poultry farms throughout the state also contributed to a remarkable improvement in poultry health and efficiency in California.

Some other achievements include inauguration of nicotine treatment for roundworms, improvements in vaccination against fowl pox, and methods for the differential diagnosis of several virus diseases of chickens. Doctor Beach pioneered in a study of the disease that he preferred to call pneumoencephalitis and during the past decade he had developed considerable knowledge concerning methods for its diagnosis, prevention, and control. His frequent articles and bulletins have been a definite contribution to the welfare of the poultry industry. His voluminous Experiment Station Bulletin on diseases of poultry was kept up-to-date by numerous revisions over a period of 30 years and the demand for copies by poultrymen throughout the world was heavy.

An important beneficial spread of influence resulted from the service to the poultry industry of specialists trained in Doctor Beach's laboratory. Veterinarians from points throughout the United States and several foreign countries came for advanced work with him.

Distinction came to Doctor Beach in various ways. In 1921 the Poultry Producers of Central California expressed their appreciation by contributing a fund to enable him to go as a delegate to the World's Poultry Congress at the Hague and there he was honored by election as vice-president of the World Poultry Science Association. He was also a delegate from California to World Poultry Congresses at Leipzig in 1936, at Copenhagen in 1938, at Cleveland, Ohio, in 1939, and to the International Veterinary Congress in London in 1949. On invitation from the Rockefeller Institute he spent a year at the institute for Animal



Pathology at Princeton. While there he developed a method of growing laryngotracheitis in vitro. Through appointment by the Governor of California he served on the State Poultry Improvement Commission for several years previous to his death.

In addition to his membership in Sigma Xi above mentioned, he was an associate of the Society of American Bacteriologists, and a member of the United States Livestock As-

sociation, the Poultry Science Association, the American Veterinary Medical Association, and the California State Veterinary Medical Association. He was an associate editor of *THE CALIFORNIA VETERINARIAN*.

Surviving are his wife, Elzaida, two daughters, Mrs. George E. Smith, Portland, Oregon; Miss Ruth Beach of San Francisco, and a son, George, with Merck and Company, Rahway, New Jersey.

## **Profile: Andreas J. Sorensen, D.V.S.**

By JOSEPH ARBURUA, D.V.M.

Dr. Andreas J. Sorensen was born in Modesto, California, February 22, 1877. As a lad he worked in his father's brewery. Also working for his father was a bookkeeper, whose desire was to attend veterinary college. His habits prevented him from accumulating enough money to go to college, but he did imbue young Sorensen with the idea.

The latter procured three veterinary textbooks from the east, and thoroughly satisfied himself as to his decision. In 1896, at the age of 19, he left for the Ontario Veterinary College, graduating in 1898. During his junior vacation he worked three months for Dr. Winde in Tonwanda, New York.

After graduation, in addition to his desire to return West, he had \$40 in his possession, an insufficient amount to return to California. He found that the fare to Portland was \$30, and to Phoenix, Arizona, \$35.

In June of 1898, shortly after his arrival, he enlisted in the Oregon National Guards for service in the Spanish American War. He reported for duty at Vancouver Barracks, Washington, as a staff sergeant in Battery A, Light Artillery, Oregon Volunteers, and was discharged toward the end of November, after the conclusion of the war.

After his discharge he was employed by Dr. W. McLean in Portland at the salary of \$25 per month, and the following year he again entered the service. This time in the Quartermaster Corps at \$21.60 per month. In September he was sent to the Philippines with 916 horses and mules returning in November, 1900. In May of that year he had been appointed Principal Veterinarian in charge of Pony and Veterinary Medical Supply. In March of 1901 he accompanied another load of animals to the Islands and was discharged in May, 1903.

After separation from the service, Dr. Sorensen returned to his home town, Modesto. Here he developed a practice which he maintained until 1915, when he sold to Dr. C. M. Steiger.

That year he took over the management of hog cholera serum production for the Western Laboratories which were located at 24th

and Broadway in Oakland, and of which Dr. R. A. Archibald was founder and president.

A large, modern serum plant was built in French Camp near Stockton, and Dr. Sorensen managed it until 1923, at which time he purchased the plant and maintained it until 1937.

Dr. Sorensen from the start was a progressive individual and a profound student. He early realized the importance of bacteriology, a comparatively unknown and unexplored segment of medicine at the time of his graduation. Excepting Dr. Archibald and one or two others he was far ahead of any veterinarian in the state in this subject. The many papers rendered by him before the state association and later before the sectional organizations is proof. He helped materially in keeping the practicing veterinarian in Northern California abreast of developments.

Dr. Sorensen was licensed to practice in California in June, 1901, and he joined the California State Veterinary Medical Association in December, 1903. He has remained a member continuously and in 1938 was made a life member. His active interest in his profession was early and well established by attending, and becoming a member of his State Association at the Palace Hotel in San Francisco in December, 1903. This was the first meeting the association held after his return to the state, and in order to attend, he had to sell his horse to pay for the cost entailed. In addition to his many literary contributions he served as vice-president in 1910 and worked on many committees.

He became a member of the AVMA in 1910 and was an active member of the San Joaquin Valley Veterinary Medical Association, which he joined when it was organized in 1917.

Dr. Sorensen has been extremely active in the United Spanish American War Veterans. He has served as Post Commander of the Stockton Post and was Department (State) Commander in 1936-37.

In 1903 he was married to Cornelia Hawkins, who passed away in 1941. Since his retirement he has continued living in his home in French Camp at the site of the hog cholera serum laboratory and farm. His address is Route 6, Box 292, Stockton, California.



## CALIFORNIA STATE VETERINARY MEDICAL ASSOCIATION COMMITTEES

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**N. M. Twisselman**, 1246 Madison Ave., Bakersfield.  
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## OFFICERS AND MEETING DATES OF LOCAL ASSOCIATIONS

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*Vice-President*, Dr. R. P. Cope, 1205 San Pablo Ave., Berkeley.  
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*Sergeant-at-Arms*, Dr. B. F. Murray.  
*Executive Board*, Drs. Chauncey Miller, Irving Roberts.  
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*Vice-President*, C. D. Cooper.  
*Secretary-Treasurer*, L. C. Witcosky, 4165 Turner St., Fresno.  
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*Vice-President*, Dr. George Eberhart.  
*Secretary-Treasurer*, Dr. Irving M. Roberts, 9884 MacArthur Blvd., Oakland 5.  
 Meetings bi-monthly, fourth Wednesday.

### Humboldt County VMA

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*Vice-President*, Dr. E. R. Holland.  
*Secretary-Treasurer*, Dr. H. E. Detlefsen, Ferndale.  
*Executive Committee*, Dr. S. A. Fuller, Dr. L. D. Meyers.  
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*Vice-President*, Dr. James Ebaugh.  
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*Vice-President*, Dr. F. W. Koebel.  
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*Vice-President*, Joe Gueriman.  
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### Orange County VMA

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*Vice-President*, Dr. N. D. Cash.  
*Secretary-Treasurer*, Dr. J. H. Bower, 940 Sharon Road, Santa Ana.

### Peninsula VMA

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*Secretary-Treasurer*, Dr. A. J. Gutknecht, 2895 El Camino Real, Redwood City.  
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### Redwood Empire VMA

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*Vice-President*, Dr. John Wion.  
*Secretary-Treasurer*, Dr. John McChesney, 40 6th St., Petaluma.  
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### Sacramento Valley VMA

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*Secretary-Treasurer*, T. J. Hage, U. C., Davis.  
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